Scientific Notation

Do now:

Task 1:   Fill in the blanks.

10^4	
10^3	
10^2	
10^1	

6×10^3	6×1000	6000
5×10^2		
	$4 \times 10\ 000$	
		30

Which is heavier? Jupiter of Earth?

Earth weighs
60000000000000000000000000 kg

Jupiter weighs
2000000000000000000000000000 kg

Task 2:   Which of the following numbers are written in   Scientific notation

A number is in Scientific notation if it is written as...				
3×10^4	$3 + 10^4$	3×4^{10}	310^4	4×10^3
5×10^7	52×10^7	5.2×10^7	5×10^{72}	$5 \times 10^{7.2}$
8.3×10^6	8.3×10^{-6}	0.83×10^6	8.3×6^{10}	8.3×10^{-83}
23×10^{-4}	0.04×10^3	3.89×10^{-2}	38.9×10^{-2}	3.89×100

Task 3:   Explain why each of the following are not in   Scientific notation

41.5×10^3	
$5 \times 10^{2.3}$	
8×6^4	

Task 4

Fill in the blanks

Scientific notation	Calculation	Normal Number
3×10^4	3×10×10×10×10	
2×10^5		
2.5×10^4		
7.4×10^3		
6.15×10^6		
	2×10×10	200
		8,000
	4×10×10×10×10	
		60
		72,000
	0.8×10×10×10	
	645×10×10×10×10	
	70.4×10×10×10×10	

Task 4

Write these in Standard Index Form:	**Write these as ordinary numbers:**
6000	2.1×10^5
456 000	3.214×10^4
21 300	1.1×10^2
351 560	6.8×10^6
11 111	5.882×10^3

A few tougher ones:

16×10^4	6.8×10
331×10^2	3.4251×10^2
0.41×10^6	

Which is bigger?

a) 4×10^6 or 5×10^6

b) 8×10^2 or 3×10^2

c) 5×10^n or 6×10^n

d) 5×10^8 or 5×10^6

e) 3×10^6 or 3×10^7

f) $n \times 10^7$ or $n \times 10^6$

g) 5×10^3 or 6×10^4

h) 7×10^3 or 4×10^5

i) 3.2×10^7 or 4.5×10^6

j) 45×10^5 or 4×10^6

k) 0.3×10^7 or 30×10^5

l) 4×10^n or $3 \times 10^{n+1}$

m) 0.02×10^n or $1.9 \times 10^{n-2}$